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FOREST INSECT INVESTIGATIONS

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WEISER NATIONAL FOREST
1936

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FOREST INSECT
LABORATORY

NORTHERN IDAHO LOOPER INFESTATION

1937

T. T. Terrell

Early in July 1937 alpine fir growing along the top of Crooked Ridge on the Coeur d'Alene National Forest were noticed to be suffering from serious insect defoliation. Determination proved the insect to be a species of looper (Fiscellaria lugubrosa Hlst.). Further examination showed the infestation to be spread over a considerable area between Lookout Ridge lookout and Jackknife Peak, with an extremely heavy concentration on the southwestern slope of Jackknife Peak. Defoliation of all species of timber and brush had taken place in the area of high concentration. The trees were incased in web and in some instances completely defoliated. Defoliation of the less heavily attacked areas, however, was mostly confined to the new growth of alpine fir and to the undergrowth such as huckleberry and alder. Heavy infestations of this insect were later found on several of the high ridges on the forest. Most of the infestation was confined to alpine and white fir, although some defoliation was noticeable on other species, including white pine. Apparently early feeding is done on low bushes and seedlings; the larvae later ascend the larger trees and drop down on a single web. This action is repeated so many times that the trees eventually become completely incased in a cone of web. This was noticeable even on dead snags in the vicinity of heavy infestation.

During the course of surveys to determine the extent of bark-beetle losses on the Coeur d'Alene, Kaniksu, and St. Joe Forests, information as to the location of looper defoliation and the presence of adults was obtained. The enclosed map will show the areas of severe defoliation encountered. However, as only a small portion of the high ridges on the Kaniksu were visited, it can not be assumed that the areas marked are the only areas affected.

On the Coeur d'Alene Forest the heaviest areas of defoliation noticed were on the southwest face of Jackknife Peak, where about 300 acres of severe defoliation occurred. A lighter infestation (noticeable) for practically the full length of Crooked Ridge. Spyglass Mountain south to the ridge between Flat and Miner Creeks, very heavy. A lighter but noticeable defoliation south on Grassy Ridge. Honeysuckle Summit and along Wolf Lodge Ridge. The Forest Service also reports defoliation on Lookout Ridge, Bumblebee Ridge, and Monument Mountain.

On the Kaniksu Forest a light defoliation on alders, white fir and alpine fir was noticeable throughout the Pend Oreille side of the forest with the exception of Boundary Creek. No severe spots of defoliation were seen, but a great number of moths were seen throughout this area. They were especially numerous in Little Lightning Creek.

Heavy spots of infestation occurred on upper Priest River, and noticeable patches of brown high along the ridge east of Priest Lake indicate heavy defoliation along these ridges. Adult moths were noticeable throughout the Priest Lake area.

The St. Joe Forest probably suffered more than either the Coeur d'Alene or Kaniksu Forests. An area of several thousand acres extending from the Little North Fork of the Clearwater River to the Sisters Peaks in the Roundtop district has been badly infested. Within this area are numerous large spots of heavily defoliated trees. Defoliation was not confined to any particular species, although the firs were generally attacked more severely than other species. Defoliation had occurred to some extent on cedar and white pine. The presence of a few adult white pine butterflies, however, may account for the white pine defoliation, although it is believed to have been caused by loopers. The number of flights of adults that occurred during the season is not known, but a flight occurred in the Roundtop district in October. The adults were so thick that the bodies falling into water dammed streams and made any but spring water unfit to drink. A very disagreeable odor from the decaying bodies prevailed along creek bottoms. An area of about three sections on the northwest side of Bathtub Mountain has been heavily infested; many of the trees are 100 percent defoliated. Defoliation is noticeable in a number of spots along the ridge between Bear Skull and Beaver Creeks. Adult moths were abundant throughout the stands.

Loggers reported moths flying throughout the summer in the Elk River district. Although no noticeable defoliation on trees was seen, defoliation of alder had occurred near Green Mountain, and adults were in evidence in all the stands.

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October 27th and 28th were spent in company with Deputy Supervisor Hoffman in making an examination of the ponderosa pine stands of the Weiser National Forest for the purpose of determining the present status of insect conditions. Though this examination was extensive in character, it is believed that representative samples were covered and that the reaction secured depicted conditions throughout the forest.

Mill Creek - North of Council

In this drainage a number of ponderosa pine trees were recorded as having died during the past few years. Though one large tree was infested with a heavy brood of the western pine beetle (Dendroctonus brevicomis), in the others there was no basal evidence at least of primary insect attack. On some of these trees the dry bark still adhered to the wood, while others revealed a sour-sap condition indicating the destruction of at least a large part of the crown by bark beetles. There was considerable evidence of top killing throughout this area, as a number of trees were recorded with the upper portion of the crown either dead or dying. As there had been no recent physical disturbances within this timber stand, the occurrence of this rather unhealthy condition was difficult to explain. Feeling that some abnormal environmental condition might be reflected in growth, a few increment cores were taken from green trees. These cores show that

during the past few years the average annual radial increment has been only .84 mm, while for the preceding five years, 1927 to 1931 inclusive, the average annual growth was 1.90 mm. This marked reduction in growth can be taken as an indication of a lowering of the resistance of trees to the attacks of secondary insects.

An unsuccessful attempt was made to establish a correlation between the annual precipitation for this area and the marked reduction in tree growth. Weather records from New Meadows, Idaho were utilized for this purpose, though it was realized that they would not depict conditions within the area where the cores were taken. Furthermore, as the relation of rainfall and tree growth is not too thoroughly understood, it is not only possible but very probable that deficiencies in annual precipitation were responsible for the conditions recorded.

Crooked River - Paradise Flats

An area was examined on the head of Crooked River (Paradise Flats), where the heavies losses of timber were reported as occurring. Enroute to this area via the Hornet Creek Ranger Station a few trees were observed which showed the same condition as recorded in the Mill Creek area. The tops of these trees were dead, with a sour-sap condition, or flathead borer work at the base.

The Paradise Flats support a very fine stand of ponderosa pine. The timber is mature and, as in all such timber stands, there is an infestation of the western pine beetle. From the presence of the scattered snags one can visualize a rather light annual loss of

timber for the past decade or more. However, as many of the dead trees have been cut for wood, it is difficult to secure a very definite reaction as to the seriousness of these losses. During 1934 and 1935 the infestation apparently increased somewhat in severity. One large group of 33 dead trees and several smaller ones were examined. In these groups there were a few trees harboring 1936 broods of the western pine beetle, though it would appear that there had been a marked decrease in the severity of the infestation. Though control measures are not considered necessary at this time, it is believed that if the actual losses were ascertained they would be in excess of what has been assumed. It is understood that nearly all of the timber in this area is privately owned, which would perhaps require some thoughts of cooperation in the institution of any future surveys or control operations.

Weiser River - North of Council

A trip up the Weiser River towards New Meadows revealed an endemic infestation of the western pine beetle, which one would expect to find in all mature ponderosa pine stands. The infestation is scattered and though not serious in the area viewed during this examination, it is fully realized that more serious conditions could exist in areas in the more remote portions of the drainage.

Brownlee Ranger Station

A trip was made to the Brownlee Ranger Station to inspect an area of dead Douglas fir trees. This area was located on top of a

high mountain ridge back of the ranger station, and as time was not available, a detailed examination was not made. However, from the appearance of the foliage on the dead and dying trees it was rather evident that they had been killed by the Douglas fir beetle. In comparing the number of more recently attacked trees with those from which the foliage has fallen, it would seem that there has been no increase in the severity of the infestation and that control measures were unnecessary.

The mountain pine beetle infestation in the lodgepole pine stands of the Weiser Forest seems to have died down. There is plenty of evidence of the devastation which has occurred, though very little new work was recorded.

In summarizing one's reaction to conditions within the areas covered by this examination, it would seem that there are no existing situations which are alarming, but it is recommended that during the 1937 season the ponderosa pine stands be covered by an extensive survey for the purpose of securing an accurate depiction of the losses which are occurring as well as the need for control. If this recommendation is approved, the Coeur d'Alene Laboratory will be glad to prepare a more detailed statement relative to the cost of the operation and to assume responsibility for the administration of the survey.

Respectfully submitted,

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